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ABSTRACT

Only recently have imitation researchers turned their attention to the effects on the model of being imitated by observers. This report outlines and reviews the findings of research in the developing paradigms. Four paradigms into the effects of being imitated are examined briefly: (1) operant strengthening paradigm; (2) classical conditioning paradigm; (3) clinical applications of imitation effects; (4) concomitant effects paradigm. Few of the studies in these paradigms have focused on the effects on adult models of being imitated by children and subsequent effects on the adults' behaviors toward the children. The experiments assessing the effects of child imitation on adult models are described. It has generally been found that adult models are attracted to or more positive toward children who were imitators as compared to children who were nonimitators. A methodological and conceptual discussion of the studies follows (viz., between-groups vs. within-subjects manipulations; social comparison processes). Areas of needed research are suggested. The being imitated effects research is placed into the perspective of child effects research. A child's imitation or nonimitation affects adults, whose behaviors subsequently affect the child and his/her development. (Author)

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The Effects on Adults of Being Imitated by Children: A Review and Methodological Critique

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In this symposium, we are attempting to tie together two overlapping research areas -- the effects of being imitated and the effects of children on their caregivers. The topic which I am to discuss derives from a direct combination of these two areas--the effects on adults of being imitated by children. What are the effects, if any? How are they investigated? What research needs to be done to increase our understanding of how a child's imitation affects adults, who in turn, may affect the child's development?

Much attention has been given to the imitation process-focusing on an observer's imitative actions and the factors influencing them. However, in any naturalistic imitative sequence, with a naive but observant model, a social interaction between observer and model may develop. Being imitated obviously must occur with the same frequency as does imitation itself. However, the unfortunate implication cast by a lack of research on the topic precludes a full understanding of interpersonal relations, especially in light of the importance of imitations and identification processes. Imitation is now being recognized as a social interaction and as an ongoing reciprocal influence process. This quality of reciprocity is particularly important in examining the effects of children on adults.

Research has affirmed the intuitive importance of children's imitation of parents, teachers, and other adults. And, since much research in imitation has focused on children imitating adult models, it seems useful to assess the

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effects of that imitation on the adult model. Gewirtz and Stingle (1968) suggest, although the notion is almost lost in the totality of their article, that "the child's imitation can be highly reinforcing to parents or models when contingent on their behavior" (p. 384).

Before turning to the research which has focused specifically on effects on adults of being imitated by children, I am going to briefly outline the research into the effects of being imi'ated in general. In doing so, I want to outline the findings, note the limitations, and show how the paradigm developed to study children's imitation effects on adults.

The several research paradigms have developed different rationales and methodologies to examine being imitated effects. These paradigms have a common theoretical tenet: being imitated is reinforcing.

The first is the operant strengthening paradigm. Researchers here have attempted to demonstrate that being imitated is reinforcing by showing an increase in the strength of the imitated response. Simply put, in these experiments, the experimenter imitates a child's actions and then measures whether that action increases in frequency over several trials. The experiments have consistently have found that imitated responses increase in frequency and nonimitated responses decrease in frequency (see research by Fouts). From this, it is interpreted that being imitated is reinforcing. There are serious problems in the conceptual basis, research design, and experimental controls in the several studies in this paradigm. But for our purposes in this discussion, the major limitation is that the paradigm has not yet studied the effects on adults of being imitated by children.

The second paradigm uses a classical conditioning framework. It is postulated that a neutral stimulus repeatedly associated with being imitated acquires a reinforcing function. As only one study has come from this classical

conditioning paradigm, much more work needs to be done here (Parton and Priefert, 1975). In particular, effects of children's contingent imitation of adults would be useful to our discussion today.

A third area of research has been in clinical applications--when imitation has been used contingently as a consequence for children's and retardates' behaviors (see research by Kauffman). For example, tongue protusion and messy eating behaviors have been decreased through contingent imitation and imitative behaviors have been increased by contingent imitation. The effects on adults' clinical behaviors have not yet been studied here.

A fourth paradigm into effects of being imitated is what I call the concomitant effects paradigm (the research of Drs. Thelen and Bates, and myself falls into this category). This paradigm considers the subsequent changes in model's behavior and attitudes regarding the imitating observer(s). The theoretical explanations vary and this grouping of studies is primarily methodological. Several studies have been conducted which used the basic procedures in this paradigm. In general, it has been found: models are attracted to an imitator; models give more favorable evaluations about an imitator; models tend to subsequently imitate those people who first imitate them (reciprocal imitation); and models give more rewards to an imitator as compared to a nonimitator (see research by Thelen; Roberts; and Bates). These results have been found with almost all combinations--when the model is a child or adult, who is imitated by adults or children. In particular to child effects on adults, I know of 3 studies. I want to consider these studies, and then point out areas where research is needed.

The first experiment was conducted by Bates (1975). He experimentally varied the imitativeness of child confederates in a basketball teaching

situation. He then measured effects on 21 variables which combined as a measure of "positivity" of the adult model toward the child. He found that subjects were more positive toward a child who imitated them than one who did not imitate. Additionally, he found that subjects who were instructed to explicitly ask the child to imitate were less positive than subjects who did not give explicit instructions to imitate. "Positivity" includes the model's verbal and nonverbal behavior toward the child confederate.

It should be noted that, while the combined "positivity" index of the 21 variables obtained differences between imitator and nonimitator, Bates did not obtain significant differences on all of the individual factors when analyzed separately. This is similar to findings I obtained on a study I will dicuss later and is important to a conceptual interpretation of the effects.

At about the same time and independently of Dr. Bates, I conducted a series of three experiments with Drs. Santogrossi and Thelen. These have been mentioned briefly in the preceding paper and I will elaborate now.

I wanted to assess the effects of being imitated on female teachers' evaluations of two pupils who were actually confederates (Roberts, Santogrossi, & Thelen, 1975). These pupils imitated or did not imitate the teacher's demonstrated arithmetic procedure. The teacher's taught via a simulated "closed circuit" TV system. The imitator and nonimitator appeared together for each subject on a prerecorded videotape which was played back to the subjects. The teachers assumed they were teaching to "live" pupils via the T.V. The adults' evaluations of the children were assessed by a behavioral measure and questionnaires. I found that being imitated significantly increased the attraction of the teachers fro the imitating pupil on the

questionnaires as compared to the nonimitating pupil. The imitator was judged not only more likeable but also more intelligent, more creative, better adjusted, and more likely to succeed in school. More teachers preferred the imitator on the behavior measure.

In this study, the imitating and nonimitating confederates were juxtaposed for each subject. That is, the subject taught two confederates. A within-subjects manipulation of imitation and nonimitation was thus used. In this situation, the obtained results could stem from effects of the imitating confederate, the nonimitating confederate, or both. Consequently, we conducted a follow-up study to test the possibility that differences may result from the experimental design (Roberts, Santogrossi, & Thelen, unpublished, 1977). We used a between-groups manipulation of imitation/non-imitation wherein the subject demonstrated to only one confederate. This confederate then either acted as imitator or nonimitator. This design is similar to the Bates' study. We used the same procedure as before in my study. Consistent with the previous research, the imitator was evaluated as more attractive than the nonimitator. The imitator was also judged more able to establish positive relationships. Contrary to previous findings, the nonimitator was evaluated as more intelligent than the imitator. Thus, the findings of Bates and this latest study are consistent with each other in that when imitation and nonimitation are not juxtaposed, attraction and evaluations are not as definitely positive for the imitator as is the case when they are juxtaposed.

From these studies, I postulate a social comparison process to be acting. When two confederates are present who exhibit opposite behaviors, the models can contrast the behaviors when making judgments. When only an imitator or nonimitator is present, the model must judge with knowledge

of only one behavior. She cannot tell whether the behavior is what normally should occur, what others might do in the situation, etc. Thus, in the Bates study and my follow-up study, social comparison was limited and the effects on the model were attenuated, but not eliminated. Where social comparison is possible, the effects are stronger.

The findings of these studies are important for research and theory in both being imitated effects research and child effects research. Two questions should be noted in this topic of adults being imitated by children:

1) What are the effects on the adult who was imitated?

2) How do these effects further effect the child who imitated?

When an adult is imitated by a child, there can be several postulated effects on the adult, e.g., he might feel good or bad about the imitation. Depending on this, he may become more or less open to modeling in the future; change perceptions of himself (competent/incompetent; likable/dislikable, among others); become more or less responsive to other social acts, imitative or not.

I must note that the limited research on this particular topic has not been concerned with the specific effects on the adult. This is a point needing some empirical investigation. What are the changes in the model's attitudes and behaviors, not just those subsequently affecting the imitator, but those that reside with the model. The three studies I have noted considered the second question more: How do the effects on the adult, in turn, affect the child?

It has long been noted that adult feelings and behavior have immense impact on children. These experiments indicate that adults are attracted to an imitating child over a nonimitating child. (There are, of course, situational limitations to this.)

We may speculate several possibilities which derive from the experimental findings. In doing so, we must recognize that naturalistic situations are

considerably more complex. (There may also be times when adults will dislike being imitated, which would reverse the direction of these speculations.) Parents may favor an imitating son or daughter over a nonimitating sibling. Accordingly, the imitator may receive more privileges or more parental interaction. Thus, the quality of parenting may be differentially determined by attraction resulting from differences in imitation. Teachers may be more attracted to those pupils who are high imitators than those who are low imitators. Consequently, differential reinforcement, assignment of grades, instructional contact, allocation of privileges, and other such actions may result from differences in attraction resulting from differences in imitation.

Given the potential importance of this research, what areas need further developing? First, a consistent and satisfactory conceptual framework has yet to emerge to guide research efforts in this area. (Dr. Thelen 's paper will discuss this further.) Second, research is needed on specific areas to complete the picture. For example, characteristics of the model and imitator have been examined some, but more is needed, e.g., such obvious factors like sex, race, and age should be manipulated.

Parenthetically, I might note on this last factor of age, I think evidence is pointing to some developmental differences in the effects of being imitated. For example, Thelen's research has consistently found 100% imitation to be liked by child models; my dissertation experiment this year found results indicating adults dislike 100% imitation by other adults.

The types of situations and behavioral acts need to be examined as well. The situations with adults being imitated by children thus far have been teaching situations. Other types should be considered. For example, the dimension of appropriateness of the imitation should be considered. If the drinking habits of many adults at the convention parties had been imitated by children--there might have been different behaviors exhibited by the adults--

and possible negative effects for the children doing the imitating. Along this line, I might note that commercials on anti-smoking have implicitly used this idea. They depict a child picking up a cigarette box after an adult lights up--with the suggestion that the child will imitate what he sees. It is hoped that adults react negatively to being imitated in this way.

In fact, there is a general need for research to look into possible negative effects of being imitated. There can be suggested several instances of where imitation is likely not positively evaluated--mockery or plagiarism may have negative imitation effects. Most previous research in all paradigms has considered only positive, reinforcing effects.

Finally, I think the effects of being imitated, and especially effects on adults of children's imitation or nonimitation, should be investigated in more naturalistic settings. Observational studies should be helpful in this regard.

In summary, I have attempted to place the being imitated effects research into the perspective of child effects research. I have examined the research assessing the effects of children's imitation of adults, noted the important implications of it, and pointed out where research might proceed.

Symposium: The effects of children on their caregivers: The bent twigs reciprocate. (David A. Santogrossi, chair)
John E. Bates, Indiana University--A brief review of child effects research.
Michael C. Roberts, Purdue University--The effects on adults of being imitated by children: A review and methodological critique.
Mark H. Thelen, University of Missouri--Conceptual views of being imitated: Effects and some future research directions.
David A. Santogrossi, Purdue University--Implications of child effects research.
Theodore Wachs, Purdue University--Discussant.
Convention of the Midwestern Psychological Association, Chicago, May, 1977.

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